

Application No. 10/749,059
Amendment "A" dated November 21, 2005
Reply to Office Action mailed December 30, 2003

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Canceled)
2. (Amended) A dental curing light as recited in claims 123 or 24, further comprising an insulating layer in the form of an air gap separating at least a portion of the first elongated solid metallic portion of the metallic heat sink portion from the housing.
3. (Canceled)
4. (Amended) A dental curing light as recited in claims 123 or 24, the first elongated solid metallic portion of the metallic heat sink portion comprising at least one of aluminum, brass, copper, steel, or silver.
5. (Amended) A dental curing light as recited in claims 123 or 24, the first elongated solid metallic portion of the metallic heat sink portion comprising a thermally-conductive ceramic comprising at least one metal oxide.
6. (Amended) A dental curing light as recited in claims 123 or 24, the light source comprising at least one LED.
7. (Amended) A dental curing light as recited in claims 123 or 24, further comprising a lens sized and configured so as to focus light emitted from the light source in a desired manner.
8. (Amended) A dental curing light as recited in claims 123 or 24, the light source being powered by and external power source.

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9. (Amended) A dental curing light as recited in claims ~~1~~23 or 24, further comprising an integral battery pack for powering the light source.

10. (Amended) A dental curing light as recited in claims ~~1~~23 or 24, further comprising ~~wherein said housing comprises one or more controls contingent to~~ for selectively activating the light source.

11. (Amended) A dental curing light as recited in claims ~~1~~23 or 24, ~~wherein the second elongated polymer-based portion of the heat sink portion makes~~ physical contact with the electronic circuitry.

12. (Canceled)

13. (Canceled)

14. (Amended) A dental curing light as recited in claims ~~1~~23 or 24, ~~wherein the second elongated polymer-based portion of the heat sink portion comprises~~ at least one of an epoxy-based or silicone-based resin.

15. (Amended) A dental curing light as recited in claims ~~1~~23 or 24, ~~wherein the second elongated polymer-based portion of the heat sink portion comprises~~ at least one polymer and at least one heat conductive filler.

16. (Amended) A dental curing light as recited in claims ~~1~~23 or 24, ~~wherein the second elongated polymer-based portion of the heat sink portion comprises~~ at least one of a solid, liquid or gel.

17 - 22 (Canceled)

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23. (New) A dental curing light, comprising:

an elongated housing having a proximal end and a distal end, with a handle portion disposed between the proximal and distal ends;

a light source disposed at the distal end of the housing;

electronic circuitry disposed within the handle portion of the housing for controlling the light source; and

a heat sink disposed within the elongated housing for transferring heat generated by the light source away from the distal end and for dissipating the heat that is transferred away from the light source, said heat sink comprising,

a first elongated solid metallic portion having proximal and distal ends, said distal end in thermal contact with the light source and extending from the light source through at least a portion of the elongated housing;

a second elongated portion comprised of a polymer-based material that is not electrically conductive, said second portion in thermal contact with the first elongated solid metallic portion at its proximal end, said second elongated portion extending through said handle portion of the housing and surrounding at least a portion of the electronic circuitry contained therein.

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24. (New) A dental curing light, comprising:

an elongated housing having a proximal end and a distal end, with a handle portion disposed between the proximal and distal ends;
a light source disposed at the distal end of the housing;
electronic circuitry disposed within the handle portion of the housing for controlling the light source; and

a heat sink disposed within the elongated housing for transferring heat generated by the light source away from the distal end and for dissipating the heat that is transferred away from the light source, said heat sink comprising,

a first elongated solid metallic portion having proximal and distal ends, said distal end in thermal contact with the light source and extending from the light source through at least a portion of the elongated housing;

a second elongated portion comprised of a polymer-based material that is not electrically conductive, said second portion in thermal contact with the first elongated solid metallic portion at its proximal end, said second elongated portion extending through said handle portion of the housing and surrounding at least a portion of the electronic circuitry contained therein; and

an insulating layer surrounding the first elongated solid metallic portion so as to insulate it from the housing.